

**CROSSBAR SWITCH THAT SUPPORTS A MULTI-PORT SLAVE DEVICE AND
METHOD OF OPERATION**

ABSTRACT

- 5 A crossbar switch (12) arbitrates for access from multiple bus masters (14, 16, 18, 20 and 22) to multiple addressed slave ports (3 and 4) that have overlapping address ranges. In one form, the address ranges are the same address range. The crossbar switch (12) uses shared slave port control circuitry (48), configuration registers (46) and slave port arbiter logic (34, 36, 38, 40, 42 and 44) to arbitrate for access when all the addressed ports are busy.
- 10 A determination is made as to whether new access requests are higher or lower in priority than existing accesses. A determination on where to direct a new access request is made based upon a prediction of which of certain multiple accesses will complete first based on various factors including the number of data beats requested as well as wait state information. In one mode, the wait state information is determined dynamically.